

33. The coordinates of three vertices of a rectangle are  $(1, 1)$ ,  $(1, 3)$ , and  $(6, 1)$ . Find the coordinates of the fourth vertex.
34. The coordinates of three vertices of a square are  $(-2, 3)$ ,  $(-2, -1)$ , and  $(2, 3)$ . Find the coordinates of the fourth vertex.
35. The coordinates of three vertices of a parallelogram are  $(0, 0)$ ,  $(-6, 0)$ , and  $(-8, -3)$ . Find the coordinates of the fourth vertex. *Hint:* There are three possible locations.
36. **Thinking Critically** The coordinates of two vertices of a square are  $(0, a)$  and  $(0, -a)$ ,  $a \neq 0$ . Find the coordinates of the other vertices. *Hint:* There are three possible locations.

Find the distance of each point from the  $x$ - and  $y$ -axes.

37.  $(-2, 4)$       38.  $(-5, 2)$       39.  $(0, 4)$       40.  $(-2, 0)$

### Applications

41. **Architecture** A company wants to put lights in a parking lot. The architect treats the lot as a coordinate plane and uses the center of the lot as the origin. She puts lights at  $(4, 5)$ ,  $(-4, -5)$ ,  $(3, -2)$ , and  $(-1, 2)$ . Graph these points to show where the lights should go.
42. **Engineering** An engineer is installing a sprinkler system in a large gymnasium. He treats the gym ceiling as a coordinate plane and lets the center be the origin. The sprinklers are to be placed at  $(-3, 5)$ ,  $(-2, 4)$ ,  $(6, 7)$ , and  $(5, -2)$ . Graph these points to show where the sprinklers should go.
43. **Transportation** The stationmaster designates the train storage yard as the origin of a coordinate plane, and the locations of engines outside the yard are indicated by pins at points in the plane. At 6 PM there are engines at  $(0, 3)$ ,  $(-4, 0)$ ,  $(3, -4)$ , and  $(-6, 8)$ . Graph these points.